demonstrate the impact of population characteristics on mean antipsychotic dose. We will compare results using different techniques to adjust average dose for population differences. Techniques presented will include stratification, limiting study population variation, and various multivariate regression coding and modeling strategies. We discuss which techniques provide the greatest generalizability and the most valid comparisons.

**WTG6**

## MAKING DECISIONS ABOUT ANTIBIOTIC RESISTANCE

Davey PG
MEMO, Dundee, Scotland

**WORKSHOP OBJECTIVE:** Antibiotic resistance is an increasing global problem and there is no doubt that it is caused by antibiotic prescribing. Nonetheless, most prescribing necessarily occurs at a time when it is uncertain whether the patient has bacterial infection, never mind what organism is causing the infection. The prescriber faces two problems: 1) Which drug should I select in order to maximize this patient's chance of recovery? (e.g., at what level of trimethoprim resistance in *Escherichia coli* should I switch to quinolones as my first line treatment for simple cystitis in primary care?). 2) What impact does my choice of prescribing have on the prevalence of antibiotic resistance? (e.g., if I recommend carbapenems for first-line treatment of suspected intra-abdominal infection, will I be storing up future trouble by increasing the prevalence of carbapenem resistant bacteria in the hospital?). These two questions highlight a conflict of interest that is at the heart of all healthcare decision-making (Sabin, Br Med J 1998; 317:1002–4): the competing duties of fidelity (to the individual patient) versus stewardship (prudent allocation of scarce resources).
**PARTICIPANTS WHO SHOULD ATTEND:** Researchers and decision-makers with responsibility for antimicrobial prescribing. However, the issues raised are relevant to the whole debate about priority setting.

The workshop will focus on two contrasting problems: management of simple cystitis in primary care and management of intra-abdominal sepsis in hospitals. A generic decision tree and influence diagram will be used as the basis for discussion. Participants will be asked to identify the key chance nodes that should influence decision-making, and consider potential sources of information about probabilities and utilities. The authors will share information derived from two ongoing research projects.

**WDM1**

## CURRENT COMPUTER SOFTWARE AND HARDWARE OPTIONS IN PHARMACOECONOMICS: SPREADSHEETS, DECISION ANALYSIS, INTERNET, AND EDUCATIONAL TOOLS

McGhan WF
University of the Sciences in Philadelphia, Philadelphia, PA, USA

**WORKSHOP OBJECTIVE:** At the end of this session, participants will be able to compare and contrast various, current software and hardware options for pharmacoeconomics and outcomes research.
**PARTICIPANTS WHO WOULD BENEFIT:** This session is intended for individuals who have a basic understanding of the concepts used in pharmacoeconomic analyses who wish to learn more about computer software and hardware options.

Pharmacoeconomic analysis software programs should allow data and results to be examined from different policy perspectives: 1) patient, 2) provider, 3) hospital, 4) payer, and 5) society. Software models should also allow the assessment of the healthcare interventions or services from different quantitative perspectives: 1) cost of illness, 2) cost-minimization, 3) cost-benefit, 4) cost-effectiveness, and 5) cost-utility. Decision trees and sensitivity analysis software will be reviewed. Programming options include spreadsheet macros, visual basic, and Web page authoring tools. Software programs will be demonstrated that can be utilized on various hardware platforms including desktops, laptops, and remote handhelds. Software applications can assist in analyzing data, present findings, or educate providers and patients. More software is becoming available that facilitates assessment and incorporation of patient preferences and quality of life scores into therapy decision-making for treatment protocol development and interfacing at the patient's bedside. Questions that should be asked in evaluating software include: How much of the model is built on rigorous clinical trial data? Has the software been peer reviewed and field tested? Are any questionnaires valid and reliable? Is the information well referenced? Can sensitivity and incremental analyses be performed? Software and hardware options will be demonstrated. Pros and cons of diverse analytical and software approaches will be examined.

**WMM1**

## IS THE CURRENT RELIANCE ON THE MARKOV ASSUMPTION IN ECONOMIC MODELS JUSTIFIED?

Caro JJ, Huybrechts KF
Caro Research, Boston, MA, USA

**WORKSHOP OBJECTIVE:** The objective of this workshop is to demonstrate why the willingness to rely on the Markov restriction in economic models may not be justified and to suggest alternative approaches.
**PARTICIPANTS WHO WOULD BENEFIT:** Researchers involved in the development of health economic models, as well as those responsible for evaluating models.

Markov processes were first described by the Russian mathematician Markov at the beginning of this century. His intent was to generalize classical properties of sequences of independent random variables to sequences not fulfilling the independence assumption. A Markov